

**ABSTRACT**

An optical node capable of automatically detecting its interconnectivity is disclosed. The node includes a light switch, a light source, light detector, a control circuit having a unique identification. The node sends its identification via each of its ports and also listens to each of its ports for identification from other nodes. The node may store the interconnectivity information, forward the interconnectivity information to another node, or forward the interconnectivity information to a path router.